

Symptoms of disorganized schizophrenia psychology essay



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Schizophrenia is a severe mental disorder characterized by delusions, hallucinations and physical agitation; which typically causes such patients to severely misjudge the distinction between reality and their imagination. Schizophrenia's prevalence in the world was highlighted as 26th in the list of diseases, ranked according to their contribution to their overall burden to society as a whole according to a study done by Murray and Lopez, 1996. For example, it is estimated to have cost the NHS an outstanding £4. 7 billion in the UK during 2004/05 [25]. In addition in this essay I will discuss a range of elements, from what factors increase the susceptibility of inducing schizophrenia and the current treatments on offer that will help alleviate common symptoms. The disease itself has a broad influence on several other prominent factors, involving both the individuals themselves but also the global community, which will be later discussed, in regards to their social and economic context. Schizophrenia is such an enormous problem since no permanent cure currently exists.

Types of schizophrenia

There are 3 specific classes of schizophrenia [2]:

Paranoid schizophrenia

Disorganized schizophrenia

Catatonic schizophrenia

Symptoms of paranoid schizophrenia

The dominant feature of paranoid schizophrenia is excessive suspicion and delusions of being oppressed.

Symptoms of disorganized schizophrenia

Disorganized schizophrenia usually becomes visible at an earlier age in comparison to the other types of schizophrenia.

Individuals with disorganized schizophrenia struggle with the responsibility of supporting themselves. Therefore may be incapable of fulfilling basic needs, for example, being able to feed themselves.

The following includes additional symptoms of disorganized schizophrenia:

Weakened ability to communicate

Slurred speech

Immature behaviour

Expression of inappropriate feelings, in the wrong situation.

Symptoms of catatonic schizophrenia

The interference in movement summarizes catatonic schizophrenia: This can either be a decline in motor neuron activity (stupor state) or a rise in motor neuron activity (excited state).

Stuporous (a state of unresponsiveness) motor signs. Sudden stoppage of all intentional movement and dialogue.

Excited motor signs. Occasionally, schizophrenics may drastically change from a state of stupor to a state of extreme exhilaration. Throughout this hyperactive phase, they may illustrate rapid speech or uncontrollable

movement and even act out in violence, either self-inflicting or to someone else

Example of the Symptoms of Schizophrenia [6]

The following summarises common symptoms that arise in schizophrenics:

Hallucinations

Sudden changes in behaviour

Depression

Delusions

Loss of insight

What causes schizophrenia?

The cause for schizophrenia has been the subject of vigorous debate, with numerous elements being proposed, discounted or amended. In contrary to this, it has to this day not yet been diagnosed by scientists to be solely induced by one particular factor. It is however thought to be a result of a combination of elements, which differ in every patient.

Recent studies have suggested that the following have been significant contributor's consisting of a complex interaction between genetic and environmental factors, for example, prenatal development, genetics, psychology and neurobiology. [3]

Genetic causes of schizophrenia

Schizophrenia has a strong hereditary component which is shown to run in families, but no individual gene is accountable. It has been said that a combination of genes pose the potential to make people more susceptible to the disorder. In addition, people genetically predisposed to the condition have not always illustrated its symptoms, meaning that the biology of it will not guarantee having the condition. Studies imply that genes account for half (estimate) the risk of developing schizophrenia.

Individuals with a parent or sibling who suffers from schizophrenia have a 10% chance of developing the illness, in comparison to the 1% chance of the general population. Identical twins who have precisely the same genetic make-up as one another, if one of the two siblings has schizophrenia, their twin has a 48% probability of developing it too. For example, Gottesman (1991) obtained data from the Maudsley twin register and then examined the records of 40 schizophrenic's studies between 1948 and 1964. Through statistical analysis he determined that 48% of the twins who were monozygotic (identical - developed from one oocyte) happened to be concordant (when both have or both lack a given trait) and for dizygotic (not identical - developed from two oocyte) only 16%. This further demonstrates that schizophrenia is not solely genetic; otherwise the concordance for MZ twins would be 100%.

Provided below is a table illustrating additional information regarding the risk of developing schizophrenia for different individuals [4].

Relatives with schizophrenia

Chance of developing schizophrenia

None

1 in 100

1 parent

1 in 10

1 identical twin (same genetic make-up)

1 in 2

1 non-identical twin (different genetic make-up)

1 in 80

Table 1: This table illustrates the risk of individuals developing schizophrenia if someone in their family has been diagnosed.

Environmental causes of schizophrenia

As discussed previously inherited genes make an individual greater exposed to schizophrenia and moreover environmental factors can too then act on this vulnerability to trigger the condition.

In regards to the environmental aspects involved, on-going research is indicating the contribution of stress, either throughout pregnancy or at a further phase of life. High levels of stress activate schizophrenia by increasing the body's manufacture of the steroid hormone cortisol. Cortisol

normally controls the bodies fight or flight response, although long-term exposure can damage and reduce the number of nerve cells in the hippocampus, the brain's primary memory centre. As a result there's a decline in the transmission of nerve impulses for memory recall, this damage results in memory loss and impaired learning, features associated with the mental disorder.

Pregnancy where maternal stress is likely to be induced could possibly affect the development of the baby according to Gilmore & Murray's study in 2006 [8] [23]. To determine whether prenatal stress alters neural, hormonal, and behavioural processes, in an experiment they carried out, pregnant rhesus monkeys were deliberately stressed frequently for 6 weeks of their pregnancy with various stimuli. Between 2-3 years of age, hippocampal volume, neurogenesis (generation of neurons), and cortisol levels were monitored in the offspring produced from both stressed and control pregnancies. Prenatal stress caused a reduced hippocampal volume and an inhibition of neurogenesis. These findings indicate that the prenatal environment can alter behaviour and affect the hippocampal structure of primates in a persistent manner.

Furthermore if the mother happens to be anxious (stressed) while pregnant, there have been noticeable results suggesting reduced blood flow to the baby via the uterine arteries; blood vessels that supply nutrition and blood to the uterus. This could justify abnormalities in the development of the baby and the mothers high cortisol levels (a dominant stress hormone) could too pass onto the foetus. If adequate cortisol transports through the placenta from the mother to the foetus. This in turn could potentially affect the

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development of the brain and the future stress responses of the baby, thereby enhancing the risk of schizophrenia arising.

Studies point to numerous stress-inducing environmental influences that may be related to schizophrenia, for example [22]:

Inadequate oxygen levels during labour (due to prolonged labour or premature birth)

Exposure to a virus during infancy e. g. T Gondi

Drug abuse - A relationship between marijuana use and the disorder has been suggested several years ago (Andreasson, Allebeck et al. 1987). These conclusions have been validated by additional research. Fundamentally, the deductions drawn from many of these reports were that marijuana use can induce psychosis.

For example, according to Thomas H, he stated the occurrence of psychotic symptoms amongst marijuana users in a random selection of volunteers from New Zealand. Fourteen percent of cannabis users described "strange, unpleasant experiences such as hearing voices or becoming convinced that someone is trying to harm you or that you are being persecuted" after consuming the substance. Such symptoms are frequent with schizophrenics too. [29]

In addition Mather's DC conducted a study of patients residing in two London hospitals whose urine was investigated for the presence of cannabinoids (the active constituents of cannabis). They found a link between the presence of cannabinoids in urine and the disorder. This suggests a potential correlation
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and not entirely causal link, either that cannabis use increases the likelihood of being predisposed to a mental illness or that substance abuse is commonly adopted with post diagnosis [28]. The reliability of this data can be disputed even though it is a published study, a sample size made up of two individuals is notably small, especially when schizophrenia affects 1% of the global population, hence it may not be appropriate in statistical representation of the entire population because fewer risk factors can be taken into account to generate sound data, prove that a correlation exists and thus make any hypothesis meaningful.

The cannabinoids found in cannabis, once consumed are thought to interfere with normal neural transmissions. The normal release of neurotransmitters, such as acetylcholine and dopamine (chemicals that help transmit impulses) from post synaptic neurons are seen to be inhibited (Gill et al, 1970). In turn excitatory postsynaptic currents in neurons were dramatically reduced. If this process becomes perpetual prominent effects of cannabinoids include disruption of psychomotor behaviour (such as speech and coordination) and short-term memory impairment [33]. In addition psychomotor retardation consists of several symptoms that have been acknowledged in schizophrenia. However there is miniscule evidence that such impairments are permanent stated by Manuel Morrens study in 2006.

Abnormal brain structure

Due to the progression in neuroimaging, technology now allows scientists to examine functions in living organisms and in particular brain structure.

Investigations involving schizophrenics have identified irregularities in brain structure according to Johnstone (1976) [27]. Such as the expansion of the
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ventricles (fluid-filled cavities), the decline in size and metabolic activity in particular brain regions. These brain ventricles signify an insufficiency in the volume of brain matter. In addition evidence of abnormally low activity in the frontal lobe; the area of the brain accountable for higher order functioning including; speech and decision-making has too been gathered. Which could explain why schizophrenics experience slurred speech. Regardless of the evidence of brain abnormalities, it is doubtful that schizophrenia is caused by a single issue in any one area of the brain. Moreover microscopic studies of dead brain tissue in schizophrenics have also illustrated slight alterations in the distribution of brain cells. However these defects are not characteristic of all people with schizophrenia, neither do they happen solely in people with the disorder. [7][8]

This image is of 28-year-old identical twins, one with schizophrenia and the other well. Hence it clearly illustrates two points: (1) schizophrenia is a brain disease with measurable structural and functional abnormalities in the brain; and (2) it is not solely a genetic disease, and that other biological elements contribute in its etiology. C:

UsersRahmanDocumentsSchizophreniaschizophrenia-brains-identical-twins.
jpg

Figure 1 – MRI scans of 28-year-old identical male twins showing the enlarged brain ventricles in the twin with schizophrenia (right) compared to his well brother (left)

Neurotransmitters

Brain cells need messages to be transported between them;

neurotransmitters are the chemicals that carry out this requirement.

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Neurotransmitters and schizophrenia have shown to demonstrate a relationship since medicines that adjust the levels of neurotransmitters in the brain are recognized to alleviate a few of the symptoms of schizophrenia.

Therefore schizophrenia could possibly be triggered by an alteration in the level of the two neurotransmitters serotonin and dopamine – chemicals that help transmit nerve impulses from one nerve cell (neurone) to another across a synapse (gap between two neurones), investigations have suggested [7][8]. Lastly the antipsychotic drug chlorpromazine thought to reduce relapse time (suffer deterioration after a period of improvement), which too blocks dopamine-receptor complexes forming suggests that an imbalance of the two could possibly be the foundation of the problem.

Genes

In addition in 2006 a Gene linked to schizophrenia had been found, a University team from Edinburgh found people predisposed with what is called Neuregulin (gene) had a higher chance of developing similar psychotic symptoms. The longitudinal study followed a group of 200, of the same age and gender, for a period of 10 years. [9][10][11]

This study could be deemed reliable to an extent, seeing as though 10 years is an extremely substantial amount of time, hence a vast amount of data could be collected to either support or disprove the theory. In addition by following individuals of the same age and gender, further risk factors that could influence the results were controlled. Meaning the data would be valid, because any results would be more likely to be influenced by genes alone.

“ Neuregulin 3 is clearly one more gene to add to the few currently known to contribute to schizophrenia,” says David Valle, director of the McKusick-Nathans Institute of Genetic Medicine at Hopkins.

Pregnancy and birth complications

The following circumstances increase the risk of the child developing schizophrenia later in life [8]:

Exposure to a virus while in the womb

Asphyxia (Lack of oxygen) during birth

Malnutrition during pregnancy (Susser et al. 1996)

How is schizophrenia treated?

Due to the cause for schizophrenia still being undetermined, treatments target alleviating the symptoms. These include the use of both antipsychotic medication and various other psychosocial management techniques.

Antipsychotic drugs assist in normalizing the biochemical imbalances that cause schizophrenia.

Antipsychotic medications

Medications used to treat schizophrenia are referred to as antipsychotics.

Antipsychotics are ‘ dopamine antagonists’ - they block receptors on the surface of neurons.

How do antipsychotic drugs work?

Neurons (nerve cells) carry electrical impulses through their branches.

Neurons communicate 'chemically' by sending out 'bursts' of chemical signals (neurotransmitters - NT's) into the synapse (space between neurons) and then 'sticking' to receptors on receiving neuron.

Receptors are 'shaped' to 'fit' with specific NTs and generate a new signal/change in the receiving cell.

Molecules of antipsychotic drugs are deliberately 'shaped' so that they stick to the dopamine receptors first; therefore preventing the binding of NTs so no signal goes through to the post-synaptic/receiving cell. [30]

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Figure 2 - The picture above illustrates how the antipsychotic drug works by blocking the receptors on the post-synaptic neuron.

The following include frequently used medicine [13]:

Chlorpromazine C: UsersRahmanDocumentsSchizophreniaChlorpromazine 2D skeletal. png

Figure 3 - This picture illustrates the chemical composition of the antipsychotic Clozapine. Haloperidol

Ondansetron

Clozapine

Clozapine as mentioned above is an effective drug utilized in treating psychotic symptoms, for example, hallucinations or long breaks with reality.

Because antipsychotic drugs inhibit neurotransmitter and receptor complexes forming, such nerve impulses cannot be passed on through the neural pathway. In turn this prevents such thoughts from being processed by the CNS (central nervous system), including the brain and hence the patient doesn't encounter similar problems as before.

However it too has its drawbacks, it can occasionally result in the loss of white blood cells which assist the immune system to fight off infection. As a result clozapine users require regular weekly blood tests in order to have their white blood cell count checked [26]. Moreover such a side effect can become an issue where health services are limited in availability, as well as the problem of being able to cope with the cost of blood tests and medicine, making treatment with clozapine demanding for a large majority of individuals. However clozapine is potentially valuable for those who have developed a resistance to alternative antipsychotic medication.

What are the side effects?

Further side effects may occur when schizophrenics begin taking their medication.

Side effects of many antipsychotics include [14]:

Tiredness

Light-headedness

Obscured vision

Increased heart rate

Inflammation

Menstrual complications for women.

One of the challenges with any form of medication is that a minority of individuals unable to tolerate the adverse side effects of the drug prescribed for their condition terminate its use into several months of their treatment.

Furthermore in reference to a more serious medical note, persistent use (over several years) of antipsychotic drugs pose the risk of developing tardive dyskinesia (TD), a disorder categorised by involuntary movements. This may involve jerk movements of the limbs (arms or legs) and certain other features of the body. However it only occurs in between 15-20% of all cases. The symptoms of TD are minor, to the extent where patients could possibly be unaware [13]. Its cause is supposed to be a result of prolonged inhibition of dopamine D2 receptors (a cell that dopamine binds to) which is thought to cause a surge in the quantity of D2 receptors in the striated section of the brain (regulates muscle contraction). This increase of D2 receptors enhances the chance of dopamine-receptor complexes forming, thereby leading to further impulsive muscle contraction. [34]

Moreover typical antipsychotics can lead to severe obesity and alterations in a person's metabolism. This in turn can increase the possibility of diabetes and high cholesterol levels forming (therefore there is a need for doctors to regularly monitor a person's weight, glucose levels and liquid levels).

Psychosocial Treatments (Alternative Treatment)

Along with the more common psychotic symptoms of schizophrenia, for example, hallucinations, which antipsychotic drugs have demonstrated to alleviate. Patients are still left dealing with the behavioural difficulties of the condition. This treatment aims to ease psychological distress through a more personal and interactive process, rather than the use of medication.

The following include methods in helping to treat these behavioural issues [5]:

Individual/Group Psychotherapy - consists of repeated scheduled talks between the patient(s) and a psychiatrist. Giving him/her the opportunity to discuss the difficulties that leave them feeling distressed in an intimate and safe environment. In turn the weight off having to deal with the problem alone can be removed, the psychiatrist can then provide an explanation for the suffering that is progressive - that is, the patient understands something can be done to mend the situation. This leads them to conducting themselves in a healthier and active manner, whether it is thinking more positively or they learn how to maintain better relationships. This seems to be effective because the patient is given the self-belief that any improvements are down to their own merit.

Family Education - This involves teaching several coping techniques to families for the purpose of dealing more effectively with their ill relative.

Relatives can be crucial tools when dealing with schizophrenics, with their support and guidance patients can find some form of normality and alleviate the effects of solitude, just one of the many symptoms of the condition. In <https://assignbuster.com/symptoms-of-disorganized-schizophrenia-psychology-essay/>

general with the combination of medicinal and psychosocial treatment, patient's quality of life can be drastically improved. However don't be deceived, the treatment process for some individuals can be difficult to follow, in reference to drug side effects treatment may be discontinued. This is where relatives can be vital in assisting that patients do not relapse. C: UsersRahmanDocumentsSchizopherniapsychiatry-couch2. jpg

Figure 4 - this picture illustrates a comfortable environment, typically in a psychiatric place of practice where the patient can discuss his feelings on topics that cause concern and thereby hopefully reduce his psychological suffering. This should improve his quality of life.

Electroconvulsive therapy (ECT)

ECT is scarcely implemented in the treatment of schizophrenia (e. g. exceptions may include when there is a high risk of suicide). The following describes how the treatment would typically be conducted [32];

The patient will have a pulse oximeter connected to them, in order to monitor blood oxygen levels. Electrodes will then be placed onto the recipient's chest so that the electrical activity across the patient's heart can be observed using an electrocardiogram (ECG)

In addition an electroencephalogram (EEG) will too be simultaneously utilized to monitor brain activity

The monitoring of blood pressure is imperative, so that any faults during the treatment can be identified immediately; hence a blood pressure cuff is positioned onto the recipients arm.

Using a sharp hollow needle connected to a transparent tube, access to the blood vessel is obtained for the administration of drugs

A sedated state is induced using the appropriate drugs to prevent erratic movement and a constant supply of oxygen is provided throughout the procedure.

Next a bite block is placed in the patient's mouth because the jaw tightens during the treatment and weakened teeth could break.

Additional electrodes are placed onto the head; the electrical current is then applied through the scalp of the brain causing a seizure to occur.

What the seizures are thought to do vary, suggestions include causing alterations in brain chemistry, especially in the balance of neurotransmitters, and hence the brain can function normally because nerve impulses are neither slowed down or too fast. An alternative theory suggests that ECT can stimulate the growth of new cells and nerve pathways in certain areas of the brain, as a result..... which can quickly inverse the symptoms of such an illness, the specifics yet remain unknown (Wahlund B & Von Rosen D, 2003). Evidence from randomised control trials (RCTs) have shown restricted success, lasting short term (Cochrane Schizophrenia Group, 1999). The typical side effects that arise seem to include; muscle aches, headaches and memory loss instantly after the procedure.

Disadvantages of Psychosocial Treatments

With any form of treatment, certain limitations will always follow; this includes that psychotherapy will naturally take a significantly longer span of

time, in order for noticeable improvements to be seen in patients in comparison to drug therapy [24]. This is because psychotherapy very much depends on the use of the patients own mental experiences to bring about the desired changes, whereas drugs will have the desired effect regardless.

Moreover in regards to the financial aspect of the treatment, it can too place a severe burden on health services to facilitate either group or individual therapy sessions at the tax payers' expense, it has been estimated to cost society £2 Billion in direct cost of treatment in 2004/05 (Mangalore R, Knapp M, 2007). In addition psychotherapy alone is not completely successful and effective in people with a severe psychological state, so drugs can sometimes be the only form of treatment.

Research into Stem Cell Treatment for Schizophrenia (Potential Treatment in the Future)

Stem cells are unspecialized cells that hold the potential to differentiate into any type of cell found within the human body [19].

The National Institutes of Health states that stem cells “ have the remarkable potential to develop into many different cell types in the body during early life and growth.” [15]

Stem cells hold the potential of great breakthroughs in the science community, in this case the possibility of an effective cure being manufactured in the future. However since our current limitations with the research, for example, problems with deliberate cell differentiation and the undetermined cause for schizophrenia such research has been delayed not

till another 50-100 years so our understanding of stem cells is at an adequate level.

However there are ethical issues that would arise in treating schizophrenia with stem cell therapy once scientifically possible. For the predominant reason that the pluripotent stem cells needed for research are solely present in embryos and the extraction of these would result in its death. For those people who believe that life begins at conception, this may be perceived as murder, seeing as though a viable life had been forcefully refused and to destroy it is immoral [15]. Furthermore like any other new technology, because we have not had a vast amount of time to study it to gather sufficient information on its broad impact; it is completely unknown what the long-term effects of such an intrusion with nature could mean to society. Such as will patients grow an extra arm in 10 years from the point of its use? Lastly stem cells derived from embryos that are not a patient's own may be identified as a foreign body, so may be rejected. Therefore stem cell therapy may not always be appropriate.

Although in order to balance the argument, stem cell therapy could be substantially beneficial to our society, it could potentially mean a cure, where patients would no longer suffer from the condition after treatment, resulting in a better quality of life. It could therefore replace conventional types of treatment e. g. medicine that are prescribed on a regular/life time basis. Thereby removing the pain inflicted on people's lives caused by side effects and limits they can place such as, not being able to work from being too tired but more importantly reducing the burden placed on society by schizophrenia, for example, the financial expense of producing drugs.

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Furthermore if the development of new drugs in this area are no longer as important, a by-product could mean fewer pressures to experiment on animals, which is a constituent of the drug development cycle. Hence animals would be subject to less brutality such experiments hold. With anything, the pros and cons must be weighted out, so that a decision suiting the majority is made.

C: UsersRahmanDocumentsSchizophreniaStem cells. jpg

Figure 5 - This illustration depicts pluripotent stem cells ability to differentiate into a range of cells found in our bodies, for example, neurons.

Modelling schizophrenia using human induced pluripotent stem cells

Research carried out by Professor Fred Gage, an expert in genetics has successfully been able to induce pluripotent stem cells (iPSCs) created from schizophrenic patients. Sage's study published in the journal "Nature" (April 13, 2011) suggests both that neurons formed from such individuals made fewer links with each other in comparison to neurons found in non-sufferers of the condition. Such research will have a variety of beneficial impacts, including as stated by Gage [20][21]:

With further research there is potential of possibly replacing such abnormal neurons related to the condition with healthy ones." This model not only affords us the opportunity to look at live neurons from schizophrenia patients and healthy individuals to understand more about the disease mechanism, but also to screen for drugs that may be effective in reversing it."

C: UsersRahmanDocumentsSchizophreniastem cells from schizophrenics. jpg

Figure 6 - This picture illustrates the healthy neural pathway in the brain generated from schizophrenia patient-derived induced pluripotent stem cells.

The Cost of Schizophrenia to Society:

Economical Implication

Also, for the government, especially in the UK where health care is provided free of charge, people with schizophrenia can be a severe financial constraint. Because such patients suffer from numerous debilitating symptoms, including depression and hallucinations. Doctors will prescribe medication in order to combat this, in this instance antidepressants (e. g. prozac) or antipsychotics of which both need to be paid for. This cost is financed by the tax payers, the problem doesn't stop there. With any drug, side effects are present as a result of its usage; doctors too prescribe further medicine to treat these symptoms. The domino effect of over scribing medicine leaves the country with an overwhelming financial cost. In regards to Mangalore and Knapp's study in 2007 indirect societal costs for schizophrenia were estimated to once have had an expenditure of £4. 7 billion in the UK in 2004/05 [25].

According to Marwaha & Johnson's journal published in 2004, it showed that amongst those with long-term mental health problems in particular schizophrenia, only 24% were employed [18]. As a result, in order for such people to maintain a standard of living, such as being able to purchase food and pay rent on their homes, they will usually claim an incapacity benefit entitling them to some money per week. This cost will be supplemented by <https://assignbuster.com/symptoms-of-disorganized-schizophrenia-psychology-essay/>

the government once again, adding to the total financial burden left by mental disorder patients.

Social Implication

The improper treatment and dismissal of the symptoms of schizophrenia can be overwhelming for the patient and those surrounding him/her. Examples of the possible effects of schizophrenia include the following:

Suffering from schizophrenia can make being employed and retaining relationships immensely challenging, because such patients frequently suffer from relapses, typically involving hallucinations; whereby the patient claims to see things that aren't really there. This can cause them to develop trust issues and communication problems, sometimes feeling that they are being persecuted by the individuals themselves. As a result, the patients keep themselves isolated, disregarding their support or even presence. This may ultimately lead to the loss of relationships, which can have a psychological toll on the family members too who care for the person, knowing that they may never truly embrace the " same" person again. In addition schizophrenics ar